Complete Summary

GUIDELINE TITLE

Obesity in women. A guide to assessment and management.

BIBLIOGRAPHIC SOURCE(S)

Brigham and Women's Hospital. Obesity in women. A guide to assessment and management. Boston (MA): Brigham and Women's Hospital; 2003. 15 p. [14 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Obesity

GUIDELINE CATEGORY

Evaluation
Management
Prevention
Risk Assessment
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Nutrition
Preventive Medicine

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide physicians with clear clinical pathways to identify and treat obesity

TARGET POPULATION

- Women who are overweight or obese
- Women who are at risk of becoming overweight or obese

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation/ Risk Assessment

1. Assessment of body mass index (BMI) and waist circumference
2. Assessment of BMI-associated health risks

Treatment/Management/Prevention

1. Dietary therapy (including changes in dietary composition and low- or very low-calorie diets)
2. Physical activity and exercise
3. Behavior therapy
4. Pharmacotherapy (including, appetite suppressants [phentermine], serotonergic agonists [sibutramine], and fat malabsorption agents [orlistat])
5. Avoidance of medications that may contribute to weight gain
6. Surgery (including, gastric bypass [GBP], vertical banded gastroplasty [VBG], or laparoscopic banding [LB])

MAJOR OUTCOMES CONSIDERED

- Disease risk associated with body mass index (BMI) and waist circumference in women
- Efficacy of obesity management/treatment at reducing body weight, maintaining weight loss, and preventing further weight gain
- Efficacy of obesity management/treatment at reducing morbidity and mortality associated with obesity
- Complications or adverse effects associated with obesity treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches using Medline.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Subjective Review

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

These guideline recommendations were reviewed by the Women's Health Guidelines Editorial Review Board.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Risk Assessment

Body Mass Index (BMI)

The body mass index (BMI) is the recommended approach for assessing body size in the clinical setting, providing a more accurate measure of body size than weight alone. However, it can overestimate body fat in people who are very muscular, very short, or who have edema, and it underestimates it in people who have lost muscle mass, such as the elderly.

BMI = weight kg divided by (height in meters)^2

or

Weight in lbs x 703 divided by (height in inches)^2

Using the BMI, we can classify patients into one of five categories.

Overweight and Obesity Classification by Body Mass Index (BMI)

National Heart, Lung, and Blood Institute Classification	BMI (kg/m^2)
Normal	18.5-24.9
Overweight	25.0-29.9
Obesity class 1	30.0-34.9
Obesity class 2	35.0-39.9
Obesity class 3	$\geq$40.0

Waist Circumference

Excess abdominal fat carries particularly elevated health risks. Waist circumference is the most practical marker of abdominal fat. (Many patients understand this concept as "apple" vs. "pear" shaped.) A waist circumference >88 cm (>35 in) raises cardiovascular disease risk in women.

(See Table 4 titled "Disease Risk Associated with BMI and Waist circumference in Women" in the original guideline document.)

Ethnic and age-related variations in distribution of body fat affect the predictive value of waist circumference. Waist circumference may be a better indicator of risk than BMI for estimating obesity-related disease risk among certain

populations, such as Asian-Americans and older people. Waist cutoffs designed for the general population may not apply to very short women (under five feet).

To measure the waist circumference, locate the top of the iliac crest and place a measuring tape horizontally (parallel to the floor) around the abdomen, making the measurement at the end of a normal expiration.

The higher a patient's BMI, waist circumference, and number of concomitant cardiovascular disease risk factors or comorbidities, the greater is the need for aggressive treatment of obesity-related diseases.

Health Risks of Overweight and Obesity

There are many health risks associated with obesity, and these risks increase with increasing degrees of overweight and obesity. Refer to the original guideline document for a discussion related to the following health risks associated with obesity: high blood pressure, type 2 diabetes, coronary heart disease (CHD), dyslipidemia, stroke, osteoarthritis, sleep apnea, cancer, and mortality.

Treatment of Overweight and Obesity

Treatment of overweight and obesity can be achieved through a variety of modalities, including dietary therapy, physical activity, behavior therapy, pharmacotherapy, and surgery. See Table 8 titled "Treatment" in the original guideline document for descriptions of the following interventions and corresponding efficacy, advantages, and disadvantages:

- Changes in dietary composition
- Low-calorie diet (LCD)
- Very low-calorie diet (VLCD)
- Physical activity
- Behavior therapy
- Drug therapy
- Surgery

Overall Goals for Weight Loss Management

- Reduce body weight – a 10 percent loss of the initial body weight is the primary target, since this would result in significant risk reduction.
- Maintain lower weight over the long-term. It is better to maintain a moderate loss over the long-term than it is to achieve a greater weight loss that cannot be maintained.
- Prevent further weight gain.

Additional Considerations

- Consider substituting medications that may contribute to weight gain (a list of medications that may contribute to weight gain is provided in the original guideline document).

- If a weight loss program is successful, after six months institute a weight maintenance regimen or set another goal for weight reduction. Change diet and exercise prescriptions as needed to surmount the tendency to plateau.
- Certain weight loss therapies may be inappropriate for:
    - Women with illnesses that might be exacerbated by caloric restriction
    - Women with a serious, acute psychiatric illness
    - Pregnant or lactating women

Treatment Approach

BMI-Associated Health Risk	Stepped Treatment
25.0-26.9 (Low to moderate risk)	• Regular physical activity • Healthful eating and/or calorie deficit diet • Behavior therapy
27.0-29.9 (Moderate to high risk)	• All of the above, but replace dietary strategy with low-calorie diet (lifestyle therapy) • Consider adding drug therapy if patient has at least two concomitant obesity-related risk factors or diseases, and if above strategies fail to produce recommended weight loss of a pound per week after six months.
30.0-34.9 (High to very high risk)	• Lifestyle therapy plus consideration of drug therapy or very low calorie diet (VLCD) (VLCD and drug therapy are not approved for use together.)
35.0-39.9 (Very high to extremely high risk)	• Lifestyle therapy, VLCD or drug therapy (VLCD and drug therapy are not approved for use together.) • Consider surgery if less invasive methods have failed, comorbid conditions are present, AND a high risk of obesity-related morbidity and mortality exists.
>40.0	• All of the above, plus consideration of surgical intervention

Tailoring Weight-Loss Strategies

- Identify potential triggers for weight gain (e.g., medications, injury or physical condition that makes exercise difficult, medical conditions, stopping

smoking, behavioral, cultural or economic issues that affect food choices and exercise options).
- Psychiatric and nutrition referrals if diet history reveals binge eating or bulimia
- Discuss realistic goals that include improvements in related medical conditions and reassess periodically.
- Frequent follow-up visits to monitor progress

Recommended Caloric Intake

For Weight Maintenance:

[Weight (lbs) x 10] + [weight (lbs) x 3 (if inactive), x 5 (if moderately active), OR x 10 (if extremely active)]

For Weight Loss:

Calorie deficit = Weight maintenance calories – (calories consumed – calories burned)

- For 0.5- to 1-lb weight loss/week a caloric deficit of 300 to 500 calories/day is required.
- For a l- to 2-lb. weight loss/week a caloric deficit of 500 to 1,000 calories/day is required.
- Calorie deficit may be achieved by dietary restrictions or increased exercise (see Table 11 titled "Physical Activity Calories Per Minute" in the original guideline document)

Caring for the Obese and Overweight Patient

There is often a sense of shame and failure associated with being overweight or obese. Clinicians can play an important role in the care of obese and overweight patients by acknowledging that losing weight and maintaining a healthier body weight is challenging, and that it often takes many attempts before success can be achieved.

Making the office environment a place that is user-friendly for obese and overweight patients is critical to making patients feel comfortable and increases the chance that they will return for follow-up care.

Refer to the original guideline document for recommendations for adapting the office environment for obese and overweight patients.

Developing a Treatment Plan

There is a large popular literature on weight-loss, and many patients prefer to try popular weight loss methods before considering medical approaches. Many of the popular diets have claims that are not supported by data. It is important for physicians to be aware of the specific recommendations of these popular diets (see table 7 titled "Popular Diets: A Partial Listing" in the original guideline

document) and to be open-minded and flexible about them. Short-interval follow-up appointments should be made to assess the success on each attempt.

If patient-initiated diets and programs do not result in significant weight loss, a stepped approach can be taken (described above), based on BMI and risk.

Maintenance Recommendations

If weight loss is to be maintained, a weight management program combining dietary therapy, physical activity, and behavior therapy must continue indefinitely. Studies suggest more frequent and long-term contacts with health professionals work best to help patients maintain weight.

Most common strategies used in successful weight loss maintainers are:

- A low fat, high carbohydrate diet
- Frequent self-monitoring (self-weighing and food records)
- Regular physical activity

Baseline characteristics that increase the risk of weight regain include:

- Recent weight loss (fewer than 2 years)
- Larger weight losses (>30% of maximum weight)
- Higher levels of depression, disinhibition, and binge eating

Prevention of Obesity

What constitutes a healthy diet for women?

- A variety of vegetables and fruits (five to nine servings a day)
- A variety of whole grains and whole-grain products versus refined grains. United States Department of Agriculture (USDA) recommendations allow six to 11 servings a day; some research and many diets recommend cutting down on carbohydrate foods, specifically those that are refined, white rice, pasta, sweets, and white potatoes. This will avoid too-frequent spikes and dips in blood sugar that may stimulate appetite and can contribute to insulin resistance over time.
- Two to three servings of protein a day from lean meat, poultry, fish, eggs, nuts, or legumes
- About 20 to 35 percent of total calories from fat. Epidemiological evidence suggests that trans fats (processed fats used commercially, such as hydrogenated oils) should be avoided. Saturated fats (found in meat and dairy products and palm and coconut oils) should be limited and replaced with monounsaturated fats (e.g., olive, peanut, canola oils, and most nuts) and polyunsaturated fats (e.g., corn, safflower, and soybean oils, flaxseed oil, fatty fish).
- Low sugar and sodium intakes
- At least eight glasses of fluid (mostly water) a day. Limit intake of juice and soda.
- A multivitamin

- Diet should contain 400 IU of vitamin D and 1,000 mg of elemental calcium for premenopausal women (1,200 mg for postmenopausal women). If dietary intake of calcium and vitamin D is less than these recommended guidelines, calcium and vitamin D supplementation is necessary.

Exercise Recommendations

The Centers for Disease Control and Prevention (CDC) recommends ≥30 minutes of accumulated, moderate exercise on most or all days of the week.

- Depending on patient's age, symptoms, and risk factors, consider an exercise test for cardiopulmonary disease.
- Simple exercise that can be gradually stepped up—such as slow walking or swimming—is best for most obese people (see Tables 11 titled "Physical Activity Calories Per Minute" and 12 titled "Calories Burned with Walking" in the original guideline document). Stress consistency and frequency over duration and intensity. Example: 10 minutes of walking, three days a week. Extra time added in five-minute increments slowly builds the regimen to 30 to 45 minutes, three days a week. Eventually, expand to most or all days.
- Lifestyle activities (stair climbing, gardening, housecleaning, and parking further away from destination) count toward goal.
- Encourage more strenuous activities as patient progresses (e.g., faster walking, bicycling, rowing, aerobic dance, cross-country skiing, and weight lifting).
- High impact activities—jogging, certain aerobic classes, competitive sports—are enjoyable for some, but increase the risk of injury. Exercise supervised by a well-qualified physical trainer may be recommended.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

They are based on a comprehensive review of recent medical literature and reflect the expertise of leading clinicians at Brigham and Women's Hospital.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Appropriate assessment and management of obesity in women
- Reduction in morbidity and mortality associated with obesity

POTENTIAL HARMS

Complications of obesity surgery

- About 25% of patients experience nausea and vomiting for two weeks post-operatively.
- Other complications include mortality, leak/sepsis, outlet stenosis, peptic ulceration, anemia, iron deficiency, folate deficiency, B12 deficiency, staple disruption, surgical revision, and band slippage/pouch dilation

Adverse effects of medication

- Side effects of sibutramine include dry mouth and insomnia. Increases in pulse rate and systolic and diastolic blood pressures in hypertensive subjects have been noted.
- Side effects of Orlistat include flatus, fecal incontinence, oily spotting, and decreased absorption of vitamins A, E, and beta-carotene.

CONTRAINDICATIONS

CONTRAINDICATIONS

- Phentermine is contraindicated in patients with coronary heart disease (CHD), moderate to severe, hyperthyroidism, glaucoma, agitated states, or history of drug abuse. Also, use is contraindicated during or within 4 days following monoamine oxidase (MAO) inhibitor therapy. Should be used with caution in patients with bipolar or psychotic disorders, diabetes mellitus, seizure disorders, insomnia, or mild hypertension. Pregnancy category C (not recommended), and not approved for use in children.
- Sibutramine is contraindicated in patients with a history of CHD, congestive heart failure (CHF), arrhythmia, or stroke. Drug interactions with MAO inhibitors, selective serotonin reuptake inhibitors (SSRIs), erythromycin, ketoconazole, and dextromethorphan. Pregnancy category C (not recommended), and not approved for use in children.
- Orlistat is contraindicated for use in cholestasis and malabsorption. Pregnancy category B. Not approved for use in children.

QUALIFYING STATEMENTS

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This guide is not intended to convey rigid standards, but instead, provide the primary care physician an algorithm for thinking through the identification and management of women with overweight and obesity problems. Treatment should be tailored to the needs of the individual woman.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Brigham and Women's Hospital. Obesity in women. A guide to assessment and management. Boston (MA): Brigham and Women's Hospital; 2003. 15 p. [14 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003

GUIDELINE DEVELOPER(S)

Brigham and Women's Hospital (Boston) - Hospital/Medical Center

SOURCE(S) OF FUNDING

Brigham and Women's Hospital

GUIDELINE COMMITTEE

Not stated

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Brigham and Women's Hospital Web site.

Print copies: Available from the Brigham and Women's Hospital, 75 Francis Street, Boston, Massachusetts 02115. Telephone: (800) BWH-9999.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Brigham and Women's Hospital. Weight loss. A guide to getting to and maintaining a healthy body weight. Boston (MA): Brigham and Women's Hospital; 2003. 14 p.

Print copies: Available from the Brigham and Women's Hospital, 75 Francis Street, Boston, Massachusetts 02115. Telephone: (800) BWH-9999.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on May 5, 2004.

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